1 What is claimed is:

2   1.   A method for an intermediary to provide responses to discovery requests

3 for services when a registry of services is unavailable, comprising:

4   receiving from a client a discovery request for a service;

5   determining the registry is unavailable;

6   altering the discovery request into a modified request appearing to originate from

7 the intermediary; and

8   queuing the modified discovery request for delivery to the registry when it

9 becomes available.

10

11   2.   The method of claim 1, further comprising:

12   providing a dummy response to the request indicating the service is available.

13

14   3.   The method of claim 1, further comprising:

15   determining the registry is available;

16   forwarding the modified request to the registry;

17   receiving a reply from the registry for the forwarded discovery request;

18   altering the reply into a modified reply appearing to originate from the

19 intermediary; and

20   sending the modified reply to the client.

21

22   4.   The method of claim 3, wherein the reply from the registry includes an

23 identification of a service provider available to perform the requested service.

1

2   5.   The method of claim 4, further comprising:

3   receiving at least one service request from the client for utilizing the service;

4   altering the service request into a modified service request appearing to originate

5 from the intermediary; and

6   forwarding the modified service request to the service provider available to

7 perform the requested service.

8

9   6.   The method of claim 5, further comprising:

10   starting a timer measuring unavailability of the service provider;

11   determining the timer exceeds a threshold, and responsive thereto, replying to

12 the client discovery request with an error.

13

14   7.   The method of claim 1, wherein the dummy response indicating availability

15 of the service identifies the intermediary as an available service provider for the service.

16

17   8.   The method of claim 1, wherein the discovery request comprises a UDDI

18 discovery request.

19

20   9.   The method of claim 1, wherein determining the service registry is

21 unavailable comprises:

22   determining an online client state or offline client state indicative of whether the

23 client is communicatively coupled with the service registry.

1

2   10.   The method of claim 9, further comprising:

3   receiving at least one successive request from the client for the service;

4   if in the online client state, replying to the client that the service is no longer

5 provided.

6

7   11.   The method of claim 10, wherein the client is configured to perform

8 another discovery request for the service responsive to the reply if the service is no

9 longer provided.

10

11   12.   The method of claim 1, further comprising:

12   receiving at least one successive request from the client identifying the service;

13 and

14   replying to the client that the service is no longer provided, wherein the client is

15 configured to repeat its discovery request for the service responsive to the reply the

16 service is no longer provided.

17

18   13.   The method of claim 1, further comprising:

19   receiving a second service request from the client for the service;

20   determining whether the registry is available;

21   if available, replying to the client that the service is no longer provided; and

1   if not available, altering the second service request into a second modified

2 request appearing to originate from the intermediary, and queuing the second modified

3 request for delivery to the service registry when it becomes available.

4

5   14.   The method of claim 1, wherein at least the client and intermediary utilize

6 an asynchronous communication protocol.

7

8   15.   The method of claim 14, wherein the client performs an other task while

9 waiting for a response to an asynchronous discovery request.

10

11   16.   The method of claim 1, further comprising:

12   starting a timer measuring unavailability of the registry;

13   determining the timer exceeds a threshold, and responsive thereto, replying to

14 the client discovery request with an error.

15

16   17.   The method of claim 16, wherein the error comprises an indicator that the

17 timer exceeded the threshold.

18

19   18.   The method of claim 16, wherein the error comprises an indicator that no

20 service provider is available to perform the requested service.

21

22   19.   A method for an intermediary to provide responses to discovery requests

23 for services when a registry of services is unavailable, comprising:

1   receiving from a client a discovery request for a service;

2   determining the registry is unavailable, and responsive thereto, replying to the

3   client that a pseudo service provider is available to perform the requested service,

4   altering the discovery request into a modified request appearing to originate from the

5   intermediary, and queuing the modified discovery request for delivery to the registry

6   when it becomes available; and

7   determining the registry is available, and responsive thereto, de-queuing the

8   modified discovery request, and submitting the modified discovery request to the

9   registry.

10

11   20.   The method of claim 19, further comprising:

12   receiving a reply from the registry responsive to the modified discovery request,

13   the reply identifying a service provider available to perform the requested service;

14   receiving a service request from the client for utilizing the service;

15   altering the service request into a modified service request appearing to originate

16   from the intermediary; and

17   submitting the modified service request to the service provider.

18

19   21.   The method of claim 20, further comprising:

20   receiving a response from the service provider;

21   altering the response into a modified response appearing to originate from the

22   intermediary; and

23   sending the modified response to the client.

1

2   22.   An article comprising a machine-accessible media having associated data

3 for an intermediary to provide responses to discovery requests for services when a

4 registry of services is unavailable, wherein the data, when accessed, results in a

5 machine performing:

6   receiving from a client a discovery request for a service;

7   determining the registry is unavailable;

8   altering the discovery request into a modified request appearing to originate from

9 the intermediary; and

10   queuing the modified discovery request for delivery to the registry when it

11 becomes available.

12

13   23.   The article of claim 22 wherein the machine-accessible media further

14 includes data, when accessed, results in the machine performing:

15   providing a dummy response to the request indicating the service is available.

16

17   24.   The article of claim 22 wherein the machine-accessible media further

18 includes data, when accessed, results in the machine performing:

19   determining the registry is available;

20   forwarding the modified request to the registry;

21   receiving a reply from the registry for the forwarded discovery request;

22   altering the reply into a modified reply appearing to originate from the

23 intermediary; and

1   sending the modified reply to the client.

2

3   25.   The article of claim 24 wherein the reply from the registry includes an

4   identification of a service provider available to perform the requested service, and

5   wherein the machine-accessible media further includes data, when accessed, results in

6   the machine performing:

7   receiving at least one service request from the client for utilizing the service;

8   altering the service request into a modified service request appearing to originate

9   from the intermediary; and

10   forwarding the modified service request to the service provider available to

11   perform the requested service.

12

13   26.   An article comprising a machine-accessible media having associated data

14   for an intermediary to provide responses to discovery requests for services when a

15   registry of services is unavailable, wherein the data, when accessed, results in a

16   machine performing:

17   receiving from a client a discovery request for a service;

18   determining the registry is unavailable, and responsive thereto, replying to the

19   client that a pseudo service provider is available to perform the requested service,

20   altering the discovery request into a modified request appearing to originate from the

21   intermediary, and queuing the modified discovery request for delivery to the registry

22   when it becomes available; and

1   determining the registry is available, and responsive thereto, de-queuing the

2   modified discovery request, and submitting the modified discovery request to the

3   registry.

4

5   27.   The article of claim 26 wherein the machine-accessible media further

6   includes data, when accessed, results in the machine performing:

7   receiving a reply from the registry responsive to the modified discovery request,

8   the reply identifying a service provider available to perform the requested service;

9   receiving a service request from the client for utilizing the service;

10   altering the service request into a modified service request appearing to originate

11   from the intermediary; and

12   submitting the modified service request to the service provider.

13

14   28.   The article of claim 27 wherein the machine-accessible media further

15   includes data, when accessed, results in the machine performing:

16   receiving a response from the service provider;

17   altering the response into a modified response appearing to originate from the

18   intermediary; and

19   sending the modified response to the client.

20

21   29.   A client system comprising:

22   a web service application program configured to utilize a web-service subsystem

23   to asynchronously send discovery requests for a service; and

1   an intermediary configured to determine an offline state for the client, and when

2   offline, to intercept discovery requests sent by the client and to reply to the client with a

3   dummy response to trick the client into believing it maintains an online state.

4

5   30.   The client system of claim 29, wherein the intermediary is further

6   configured to forward discovery requests to a registry when the client obtains an online

7   state.